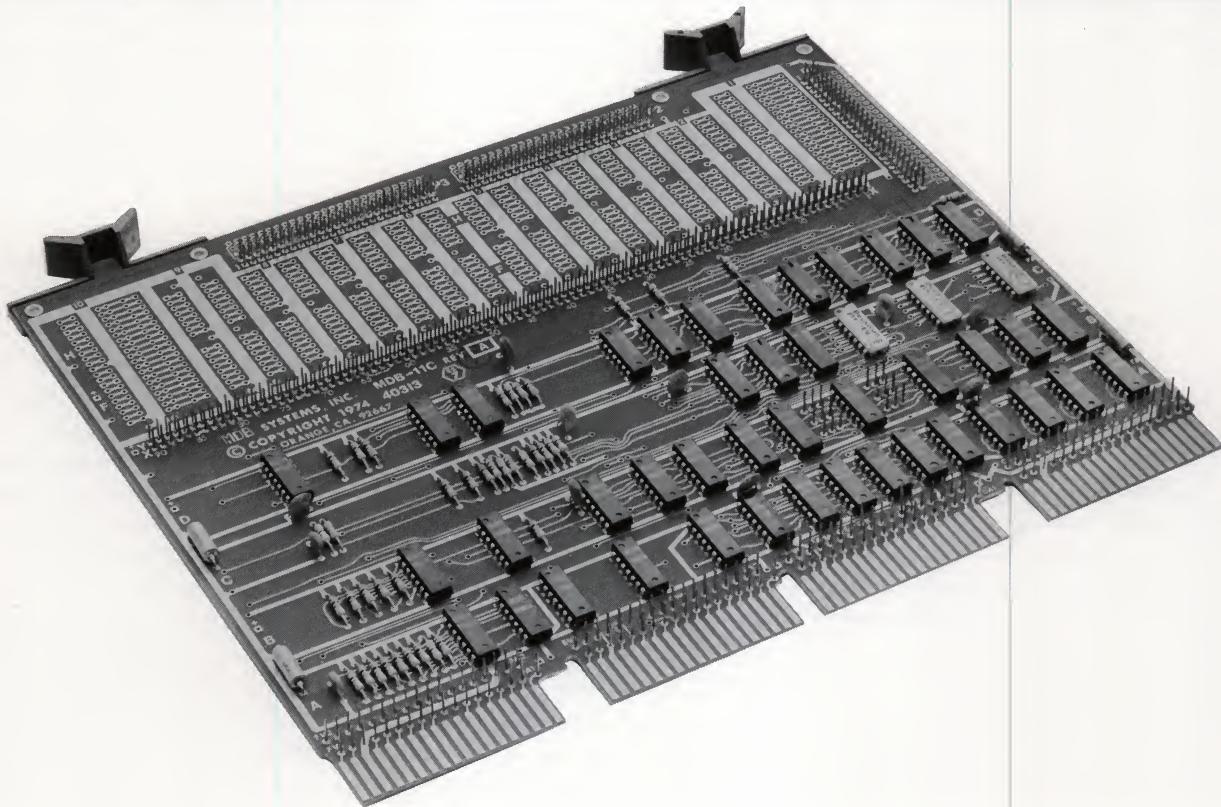


MDB

11C
GENERAL PURPOSE
INTERFACE
for use with
PDP^{*}11 Computers



MDB-11C General Purpose Interface Module for PDP-11 Computers

- Low-cost PDP-11 Unibus* to peripheral interface.
- Provides major Unibus interface logic for prototype and limited production use.
- Unibus Receiver-drivers, address selection, instrument control, input and output registers, and user interface logic area on single quad module.
- Three 50 - pin I/O connector areas for expansion to other modules or to peripheral device.

- Space for up to twenty 14-pin ICs for user logic.

The MDB-11 General Purpose Interface Module provides an interface between the Digital Equipment Corporation PDP-11* Unibus* and a user's peripheral. The MDB-11C is contained on a single quad module which has provisions for mounting up to twenty wire-wrap sockets or directly mounted ICs in 14, 16, 22, 24 or 40 pin device configurations. Wirewrap posts are installed on the component side of the module which will permit DEC's 1/2" board spacing with no interference. The

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MDB-11C fits into either the BB-11 or DD-11 Peripheral Mounting Panel.

The **MDB-11C** consists of four functional sections: Address Selection Logic; Interrupt Control Logic; Input/Output Registers; and User Interface Logic.

ADDRESS SELECTION LOGIC

The address selection logic provides the necessary circuitry for communication with the **MDB-11C** Interface and the PDP-11 Unibus. Wire-wrap posts provide the hardwire selection of addresses from 760000 through 777777. Decoding Logic is supplied to allow for 16 unique sequential addresses (8 in and 8 out). Buffered BYTE I/O Logic is also provided for custom application and is available at Users Logic Section on wire-wrap posts.

SSYN Logic is provided to notify the CPU of device addressing and also provide a Device Sync for output and input data transfers. Further use is made of this signal to provide a convenient pulse for CPU/Interface communication.

All pertinent ADDRESS, **SSYN**, **MSYN**, **C0**, **C1** and other signals are terminated on wire-wrap posts to provide additional flexibility for numerous applications.

INTERRUPT CONTROL LOGIC

Two separate interrupt control sections provide the capability of vectoral interrupt requests to the PDP-11 processor through two unique vector addresses. Any two vectoral addresses 4 thru 374 may be selected by jumpers on the module. Bus Request levels 4 thru 7 are selected by jumpers on the module. Bus requests are accomplished by applying a logic 1, (+5V) to the DEVINT inputs, pins Y41 and Y45. These pins must be grounded if not used.

INPUT/OUTPUT REGISTERS

Two separate 16 Bit Input and Output registers are provided. The output register outputs are available on wire-wrap pins adjacent to the User Interface Logic Section of the board. The input register is Byte segmented for both loading and Bus gating. Both input and output registers have a separate clear input. Both input and output registers are latch type registers which are loaded by a 0 volt logic level to the register load input.

USER INTERFACE LOGIC

Twenty wire-wrappable integrated circuit positions are available on the board to accomodate custom designs which will accept 14, 16, 22, 24 and 40 pin integrated circuits. Eight of the twenty positions in locations 2H thru 8H are dedicated 14 pin positions and have prewired power and ground on pins 14 and 7. The remaining twelve positions can accomodate either 14 or 16 pin integrated circuits. These twelve positions have prewired power

and ground for 14 or 16 pin positions, but when using 16 pin components in these positions a jumper must be removed, between pins 7 and 8. Twenty-two, twenty-four and forty pin integrated circuits can also be installed in columns 1 and 10 in place of 14 and 16 pin components. Two 40 pin integrated circuits can be installed which will reduce the number of 16 pin positions by four, or two 24 pin integrated circuits can be installed which will reduce the number of 16 pin positions by two. These two sections on the board are also useful for installing discrete components if not used for integrated circuits. These sections have wire-wrap posts installed at the outer-most positions which will allow mounting discrete components in 0.3, 0.4 and 0.6 inch center plated-through holes.

All unibus driver inputs and receiver outputs are available on wire-wrap posts so they may be used for multiple controller interfaces if desired. Inputs to the unibus drivers are 7403 or equivalent open collector gates which permit OR tying of additional inputs to the drivers. Thirty unit loads are available on the unibus receiver outputs.

Three input/output ribbon cable connectors are provided as options on the module. Two 50-pin connectors are mounted on the top edge of the module which can be used as input/output cables to external devices or for interconnection between the **MDB-11C** and additional **MDB-11WWB** wire-wrap modules. (The **MDB-11WWB** will accomodate 70 ICs or sockets.)

The **MDB-11WWB** wire-wrap module also has two ribbon-cable connectors on the top of the board in the same locations. Interconnecting cabling is available to provide board to board jumpering and bussing or cabling to external devices. The third 50 pin I/O connector is located on the edge of the board which is normally used for cabling to peripheral devices. Wire-wrap posts are provided on the three I/O connectors for interconnection into the user logic.



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